

REMARKS

The rejections under 35 U.S.C. § 103(a) as unpatentable of:

Claims 1-5 and 7-11 over Applicants' disclosure in view of U.S. 4,595,394 (Okamoto et al), and

Claim 6 over Applicants' disclosure in view of Okamoto et al, and further in view of U.S. 5,435,954 (Wold),

are respectfully traversed.

This invention relates to resin compositions each of which, when molded, gives an external appearance resembling nonwoven fabric (nonwoven-fabric-like external appearance) to a surface of the resulting molded product, and more specifically to resin compositions each of which is excellent in weatherability and heat discoloration resistance, has stable mechanical properties and, when molded using molds having fine rugged patterns on surfaces thereof, gives various nonwoven-fabric-like color tones and external appearances, which are rich in warmth and depth, to surfaces of the resulting molded products.

As described in the specification under "Description of the Related Art," beginning at page 1, line 17, there have been attempts to impart a non-woven fabric-like external appearance to a surface of a molded plastic product, but they are problematical. A variety of resin compositions with colored short fibers have been marketed, but except for some applications, molded products of these resin compositions have surfaces poor in durability such as heat resistance and weatherability. As colored short cellulosic fibers undergo neither melting nor softening and shrinkage, even when heated, they are useful as colored short fibers for resin compositions, but they too are accompanied by drawbacks, such as being poor in heat discoloration resistance, so that the fibers themselves undergo yellowing or browning at a molding temperature as low as 220°C or so. Cellulosic short fibers dyed with general-purpose dyes are not sufficient in both heat discoloration resistance and weatherability. Resin

compositions which contain colored short cellulosic fibers mass-colored with a pigment are themselves problematical for reasons described.

The present invention addresses the above-discussed problems of the prior art. As claimed in Claim 1, the invention is a resin composition comprising a matrix resin and short cellulosic fibers dyed with at least one threne dye.

The resin of Claim 1, when used as a master batch, as claimed in Claim 5, when mixed with an uncolored resin free of dyed short cellulosic fibers, form a molding resin composition, as claimed in Claim 9, that can be molded to form a molded product with a surface having an external appearance resembling non-woven fabric, as claimed in Claim 11.

The applied prior art neither discloses nor suggests any of the presently-claimed inventions.

The Examiner cites the disclosure at "page of line 25 to p. 9 line 7" of the specification herein. It is assumed the Examiner intended the disclosure at page 8, line 25 through page 9 , line 7, wherein Applicants acknowledge that the usefulness of threne dyes in dyeing cellulosic fibers has already been known. However, in the body of the rejection, the Examiner relies on disclosure at page 2, lines 9-13 that a variety of resin compositions with colored short fibers contained therein have been marketed. Thus, it is not clear precisely what disclosure the Examiner is relying on.

The Examiner relies on Okamoto et al for a disclosure of dyeing cellulose fibers with threne dyes. However, Okamoto et al does not add anything to what Applicants have already acknowledged above.

Wold has been relied on for a disclosure of plastics such as polyethylene, polypropylene, and polyvinyl chloride in articles comprising reinforced composite materials including primarily wood or cellulosic fibers and a plastic.

The Examiner holds that it would have been obvious to use threne dyes for dying cellulosic fibers to ensure excellent dyeing fastness. In reply, the present invention is not simply dyed cellulose fibers. Rather, as recited in Claim 1, the invention is a resin composition comprising a **matrix resin** and **short** cellulose fibers dyed with at least one threne dye. Thus, the invention requires, in addition to cellulose fibers dyed with a threne dye, that the cellulose fibers be short and that they be together with a matrix resin. While Okamoto et al, which is almost 20 years old, discloses that cellulose fibers are generally dyed with direct dyes, sulfide dyes, threne dyes, naphthol dyes, reactive dyes, basic dyes, or acid dyes (column 3, lines 55-57), and that the threne dyes exhibit a "quite excellent dyeing fastness" (column 3, lines 63-64), it is only with the present disclosure as a guide that one skilled in the art would choose threne dyes, out of all of the other known dyes for dying cellulosic fibers, and use them in a resin composition comprising a matrix resin and short cellulosic fibers.

In addition, the newly-submitted Yamaguchi Declaration demonstrates that threne dyes provide heat discoloration resistance and weatherability that is superior to a particular direct dye and a particular reactive dye, both of which are of types of dyes disclosed by Okamoto et al. Such superiority could not have been predicted by the applied prior art.

Claim 8 is separately patentable herein in view of the comparative data in the specification, which shows that when the concentration of the threne dye is from 7 to 15 wt.% based on the short cellulosic fibers, various improved properties result. See Examples 1-4, and the corresponding comparative examples designated as Reference Examples 1-4, respectively, described in the specification beginning at page 19, line 18. The prior art does not appreciate that the amount of threne dye based on the short cellulosic fibers, is a result-effective variable.

The above argument about the separate patentability of Claim 8, and the comparative data of record, was made in the previous response, yet the Examiner has not responded thereto. Thus, Applicants have not been given the Examiner's findings on this issue. Therefore, if the present response does not put the application in condition for allowance, then it is respectfully submitted that the next Office Action not be made Final.

For all the above reasons, it is respectfully requested that the rejections over prior art be withdrawn.

All of the presently-pending claims in this application are now believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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